AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1.   (Previously Presented) A method for imaging examination of an examination object, comprising:

administering a contrast agent to the examination object;

thereafter determining at least two spatial distributions of X-ray attenuation values, the X-ray attenuation values representing at least one of a local X-ray attenuation coefficient and a variable linearly dependent thereon, the two spatial distributions including at least,

a first attenuation value distribution determined on the basis of a first X-ray spectrum,

a second attenuation value distribution determined on the basis of a second X-ray spectrum, differing from the first X-ray spectrum;

evaluating the at least two attenuation value distributions and determining at least one of a spatial distribution of one or more predefined atomic number values and a spatial distribution of non-predefined atomic number values present in the examination object, the spatial distribution including information relating to the distribution of the administered contrast agent in the examination object; and

using the spatial atomic number distribution to represent the contrast agent by imaging.

2.   (Previously Presented) The method as claimed in claim 1, wherein an atomic number value of the contrast agent is predefined.

3.   (Previously Presented) The method as claimed in claim 1, wherein the spatial atomic number distribution is determined as a two- or three-dimensional field, the respect field value being a local atomic number value at the location represented by the relevant field.

4.   (Previously Presented) The method as claimed in claim 3, wherein, in addition to the atomic number distribution, a further two- or three-dimensional field is determined whose field values respectively reproduce a local density value.

5.   (Previously Presented) The method as claimed in claim 4, wherein the determined field having the atomic number values and the determined field having the density values are used for the purpose of calculating a local concentration or a local quantity of the contrast agent.

6.   (Previously Presented) The method as claimed in claim 1, wherein a contrast agent having an atomic number greater than 20 is used.

7.   (Previously Presented) The method as claimed in claim 6, wherein a contrast agent having an atomic number greater than 40 is used.

8.   (Previously Presented) The method as claimed in claim 1, wherein a contrast agent having an atomic number less than 83 is used.

9.   (Previously Presented) The method as claimed in claim 1, wherein the contrast agent contains at least one of gadolinium, iodine, ytterbium, dysposium, iron and bismuth.

10.   (Previously Presented) The method as claimed in claim 1, wherein the contrast agent contains an organic compound.

11.   (Previously Presented) The method as claimed in claim 1, wherein the contrast agent contains at least one of an amino acid and a peptide.

12.   (Previously Presented) The method as claimed in claim 1, wherein the contrast agent is designed for selective deposition at least one of at specific sites and in specific tissue parts of the examination object.

13.   (Previously Presented) The method as claimed in claim 1, wherein the contrast agent is added in a weight concentration from the range of 10^{-4} to 10^{-7}.

14.   (Previously Presented) The method as claimed in claim 1, wherein a first functional dependence of a first attenuation value of the first attenuation value distribution of density and atomic number, and at least a second functional dependence of a second attenuation value, assigned to the first attenuation value, of the second attenuation value distribution of density and atomic number are determined, and wherein the spatial atomic number distribution is determined by comparing the first functional dependence with the second functional dependence and, if appropriate, with further functional dependences.

15.   (Previously Presented) The method as claimed in claim 1, wherein a contrast agent having an atomic number less than 70 is used.

16.   (Previously Presented) The method as claimed in claim 1, wherein the contrast agent contains an aliphatic hydrocarbon.

17. (Previously Presented) The method as claimed in claim 1, wherein the contrast agent is added in a weight concentration from the range of 10^{-5} to 10^{-6}.

18. (Previously Presented) The method as claimed in claim 1, wherein a first functional dependence of a first attenuation value of the first attenuation value distribution of density and atomic number, and at least a second functional dependence of a second attenuation value, assigned to the first attenuation value, of the second attenuation value distribution of density and atomic number are determined, and wherein the spatial atomic number distribution and a spatial density distribution are determined by comparing the first functional dependence with the second functional dependence and, if appropriate, with further functional dependences.

*   *   *   *   *
END OF CLAIM LISTING